# Selected Abstracts from the August Issue of the European Journal of Vascular and Endovascular Surgery

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**Should the Frequency of Surveillance for Small Abdominal Aortic Aneurysms be Reduced?**

Powell J.T., Thompson S.G. Eur J Vasc Endovasc Surg 2013;46:171-2.

Different national screening programmes use a variety of surveillance intervals for patients identified with small abdominal aortic aneurysm. An individual patient meta-analysis of >15,000 persons with small aneurysm has provided a strong scientific basis for safe surveillance frequency. In many screening programmes the number of surveillance visits for men could be reduced by up to half. The higher rate of aneurysm rupture in women leads to different recommendation for women.

**DISSECT: A New Mnemonic-based Approach to the Categorization of Aortic Dissection**

Dake M.D., Thompson M., van Sambeek M., Vermassen F., Morales J.P., on behalf of the DEFINE Investigators. Eur J Vasc Endovasc Surg 2013;46:175-90.

**Objective/Background:** Classification systems for aortic dissection provide important guides to clinical decision-making, but the relevance of traditional categorization schemes is being questioned in an era when endovascular techniques are assuming a growing role in the management of this frequently complex and catastrophic entity. In recognition of the expanding range of interventional therapies now used as alternatives to conventional treatment approaches, the Working Group on Aortic Diseases of the DEFINE Project developed a categorization system that features the specific anatomic and clinical manifestations of the disease process that are most relevant to contemporary decision-making.

**Methods and Results:** The DISSECT classification system is a mnemonic-based approach to the evaluation of aortic dissection. It guides clinicians through an assessment of six critical characteristics that facilitate optimal communication of the most salient details that currently influence the selection of a therapeutic option, including those findings that are key when considering an endovascular procedure, but are not taken into account by the DeBakey or Stanford categorization schemes. The six features of aortic dissection include: **d**uration of disease; **i**ntimal tear location; **s**ize of the dissected aorta; **s**egmental **e**xtent of aortic involvement; **c**linical complications of the dissection, and **t**hrombus within the aortic false lumen.

**Conclusion:** In current clinical practice, endovascular therapy is increasingly considered as an alternative to medical management or open surgical repair in select cases of type B aortic dissection. Currently, endovascular aortic repair is not used for patients with type A aortic dissection, but catheter-based techniques directed at peripheral branch vessel ischemia that may complicate type A dissection are considered valuable adjunctive interventions, when indicated. The use of a new system for categorization of aortic dissection, DISSECT, addresses the shortcomings of well-known established schemes devised more than 40 years ago, before the introduction of endovascular techniques. It will serve as a guide to support a critical analysis of contemporary therapeutic options and inform management decisions based on specific features of the disease process.

**Effect of Stentgraft Model on Aneurysm Shrinkage in 1,450 Endovascular Aortic Repairs**

Cieri E., De Rango P., Isernia G., Simonte G., Verzini F., Parlani G., Ciucci A., Cao P. Eur J Vasc Endovasc Surg 2013;46:192-200.

**Background:** Regression of the aneurysmal sac after endovascular repair of abdominal aortic aneurysm (AAA) is an accepted indicator of aneurysm exclusion. This study evaluated the spontaneous decrease in sac diameter over a 10-year period in patients undergoing endovascular aneurysm repair (EVAR) with different stentgrafts.

**Methods:** 1,450 patients (mean age 73.1 ± 7.7 years; 1,325 male) undergoing EVAR and with a minimum of 1-year computed tomography (CT) imaging were included. Different implanted stentgrafts ($n$ = 622 [42.9%] Zenith, $n$ = 236 [16.3%] AneuRx, $n$ = 179 [12.3%] Talent, $n$ = 83 [5.7%] Endurant, $n$ = 236 [16.3%] Excluder, $n$ = 36 [2.5%] Fortron, 53 [3.7%] Anaconda, $n$ = 5 [0.3%] others) were employed. "Persisting shrinkage" was measured as ≥5B mm AAA diameter regression spontaneously persisting or increasing until the end of follow-up without reintervention. Persisting shrinkage among devices was compared with survival and Cox regression analyses.

**Results:** During a median follow-up of 45 months (interquartile range, IQR, 21-79) persisting shrinkage was detected in 768 (53%) aneurysms. Kaplan–Meier estimates of persisting shrinkage were 25.8% at 1 year, 63% at 3 years and 72.6% at 10 years. Persisting shrinkage rates were significantly higher for Zenith ($P < .0001$), Endurant ($P = .013$) and new generation Excluder ($P < .0001$) devices. Cox analyses confirmed that persisting shrinkage rates were independently associated with Zenith (OR 1.33; 95% CI: 1.176-1.514) and Endurant (OR 1.52; 95% CI: 1.108-2.092) stentgrafts and negatively associated with the AneuRx (OR 0.57; 95% CI: 0.477-0.688) device. Survival rates were higher in the persisting shrinkage group: 84.1% vs 77.8% at 3 years, and 53% vs 38.1% at 10 years ($P < .0001$). Freedom from AAA-related-death rate was 100% at 3 years and 99.7% at 10 years in the persisting shrinkage group.

**Conclusions:** Aneurysm diameter shrinkage can be achieved in most current EVARs with persisting effect at 10 years from repair and indicates the benefit and safety of treatment. Last generation devices seem to be important factors in inducing aneurysm sac shrinkage with similar clinically relevant effects among single models.

**Incidence and the Clinical Impact of Stent Fractures after Primary Stenting for TASC C and D Femoropopliteal Lesions at 1 Year**

Davaine J.M., Quérat J., Guyomarch B., Brennan M.Á., Costargent A., Chaillou P., Patra P., Gouëffic Y. Eur J Vasc Endovasc Surg 2013;46:201-12.

**Background:** The clinical impact of stent fractures is still controversial. This study analyzed the incidence and the clinical impact of stent fractures after stenting of long femoropopliteal lesions.

**Methods:** From November 2008 to October 2009, 58 patients (62 limbs) were treated in a single center with a primary nitinol self-expanding stent for Trans-Atlantic Inter-Consensus (TASC) C and D *de novo* femoropopliteal lesions. Patients were prospectively followed by medical and duplex scan examinations. Stent fractures were assessed by biplane X-rays at 12 months. Logistic regression analysis was performed.

**Results:** At 1 year a complete follow-up was obtained in 42 limbs/90 stents. The median length of the stented segment was 240B B1B 180B cm with a mean of 2.1 (1-4) stents per patient. Sixteen stents (17.8%) were fractured: one type I (asymptomatic); seven type II (2 restenosis); five type III (asymptomatic), and three type IV stent fractures (1 restenosis). Stent diameter ($P = .04$) and stent implantation in the distal part of the superficial femoral artery ($P = .05$) were positively associated with stent fractures. Stent fracture had no influence on restenosis.

**Conclusion:** This study suggests that the high stent fracture rate associated with endovascular treatment of long femoropopliteal lesions should be balanced with its low clinical impact.

**Physiological POSSUM as an Indicator for Long-term Survival in Vascular Surgery**

Sohail I., Jonker L., Stanton A., Walker M., Joseph T. Eur J Vasc Endovasc Surg 2013;46:223-6.

**Objectives:** We investigated whether the POSSUM physiology score, originally designed as an indicator for 30-day mortality for comparative audit, could be used as an indicator of long-term survival in vascular surgery practice.

**Methods:** Data from 184 different vascular procedures conducted between 1989 and 2000, containing survival data for each patient of 10 years or longer, were analysed retrospectively. Parameters collected were the preoperative physiological and the operative severity POSSUM score, gender,